

APPENDIX A

LBT/BP Algorithm For A Transmitter On The Radio Network.

BACKOFFINIT = 20;

R_RSP_TIMEOUT = R_INTERPOLL_GAP;

MAX-TX-TRIES = 20;

MAX_IDLE_TRIES = 50;

r/.rg - functions which return a maximum backoff number based on the input parameter.

Wait for a MAC_send call.

if p_flag is non-zero then

begin

select a random number, *i*, between 0 and BACKOFF_INIT;

SLOT_OFFSET = *i* R_SLOT_SIZE;

end

else

SLOT_OFFSET=0

TX_RETRIES=0

IDLE_RETRIES=0

while TX_RETRIES < MAX_TX_TRIES and IDLE_RETRIES < MAX_IDLE_TRIES and not OK do

begin

OK = False;

detect an idle channel for SLOT_OFFSET+R_IDLE_TIME time units;

SLOT_OFFSET=0;

if channel is idle then

begin

send_frame;

if a return priority response is expected then

begin

wait for response or R_RSP_TIMEOUT timeout;

if a valid response has been received then

OK=true;

else (assume a collision has occurred)

begin

TX_RETRIES=TX_RETRIES+1;

select a random number, *j*, between 0 and *r/(TX_RETRIES)*;

SLOT_OFFSET=*j* R_SLOT_SIZE;

end

end

end

else (the channel is not idle)

begin

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wait until the channel is idle;  
IDLE_RETRIES=IDLE_RETRIES+1;  
select a random number,  $i$ , between 0 and  $rg(IDLE\_RETRIES)$ ;  
SLOT_OFFSET=k R_SLOT_SIZE;  
end.
```